

LYME DISEASE IN THE NATIONAL PARKS

Lyme disease is an illness caused by corkscrew-shaped bacteria called spirochetes that are transmitted to people by tick bites. Not all ticks carry the disease. However, local infection rates can be quite high in some tick species. The disease gets its name from the town of Old Lyme, Connecticut, where it was first described in 1975.

There are three areas where risk of getting the disease is much greater than elsewhere:

- Northeast, from Massachusetts to Maryland.
- North-central states, especially Wisconsin and Minnesota.
- West Coast, particularly northern California.

The early stage of Lyme disease is usually marked by one or more of the following symptoms and signs:

- Fatigue
- Chills and fever
- Headache
- Muscle and joint pain
- Swollen lymph nodes
- A characteristic skin rash, called erythema migrans

Erythema migrans is a red circular patch that appears usually 3 days to 1 month after the bite of an infected tick at the site of the bite. The patch then expands, often to a large size. Sometimes many patches appear, varying in shape, depending on their location. Common sites are the thigh, groin, trunk, and the armpits. The center of the rash may clear as it enlarges, resulting in a bulls-eye appearance. The rash may be warm, but it usually is not painful.

Early treatment is very important. If you develop any of these symptoms after being bitten by a tick, or after visiting an area where Lyme disease is common, see a doctor and mention the possibility of Lyme disease.

- Some symptoms and signs of Lyme disease may not appear until weeks, months, or years after a tick bite:
- Arthritis is most likely to appear as brief bouts of pain and swelling, usually in one or more large joints, especially the knees.
- Nervous system abnormalities can include numbness, pain, Bell's palsy (paralysis of the facial muscles, usually on one side), and meningitis (fever, stiff neck, and severe headache).
- Erythema migrans
- In some persons the rash never forms; in some, the first and only sign of Lyme disease is arthritis, and in others, nervous system problems are the only evidence of Lyme disease.

Lyme disease is spread by the bite of the deer (or bear) tick, which normally feeds on the white-footed mouse, the white-tailed deer, other mammals, and birds, is responsible for transmitting Lyme disease bacteria to humans in the northeastern and north-central United States. (In these regions, this tick is also responsible for the spreading of babesiosis, a disease caused by a malaria-like parasite.) On the Pacific Coast, the bacteria are transmitted to humans by the western black-legged tick, and in the southeastern states possibly by the black-legged tick. .

When in tick habitat (grassy, brushy, or woodland areas), several precautions can minimize your chances of being bitten by a tick.

- Tuck your pant legs into your socks. Tuck your shirt into your pants. Deer ticks grab onto feet and legs and then climb up. This precaution will keep them on the outside of your clothes, where they can be spotted and picked off.
- Wear light colored clothing. Dark ticks can most easily be spotted against a light background.
- Inspect your clothes for ticks often while in tick habitat. Have a companion inspect your back.
- Spray insect repellent containing DEET on clothes and on exposed skin other than the face, or treat clothes (especially pants, socks, and shoes) with permethrin, which kills ticks on contact.
- Inspect your head and body thoroughly when you get in from the field. have a companion check your back, or use a mirror.

● When working in tick habitat on a regular basis, do not wear work clothing home. This will reduce the chances of bringing ticks home and exposing family members.

● If you are bitten by a tick, remove the tick as soon as possible. The easiest method is to grasp the tick with fine tweezers, as near to the skin as you can, and to gently pull it out. You may want to save the tick in a small jar for later identification. Check to see whether the mouthparts broke off in the wound. If they did, seek medical attention to get them removed.

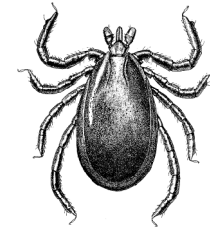
If you get any symptoms of Lyme disease in the following week to several months, see a physician immediately. Be sure to tell the doctor that you were bitten by a tick. A blood test can help determine if you have been exposed to Lyme disease.

REFERENCES

Health Information, National Center for Infectious Diseases, **Centers for Disease Control and Prevention**, Department of Health and Human Services

If you have any questions, please contact your Regional Public Health Consultant or park sanitarian, or call WASO Public Health for more information at 202-565-1120 or see our NPS Public Health web page at www.nps.gov/public_health/.

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